

REMARKS

Applicant thanks the Examiner for the very thorough consideration given the present application.

Claims 1-8 and 21-26 are now present in this application. Claims 1, 5 and 23 are independent.

Claims 9-20 have been cancelled. Claims 21-26 have been added and claims 1 and 2 have been amended. Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. § 119

Applicant thanks the Examiner for acknowledging Applicant's claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document.

Restriction Requirement

The Examiner has made the Restriction Requirement final, and has withdrawn claims 9-20 from further consideration. By this Amendment, Applicant has canceled non-elected claims 9-20. Applicant reserves the right to file a divisional application directed to claims 9-20 at a later date if so desired.

Objection to the Drawings

The Examiner has objected to the drawings stating that Figures 4A and 4B should be labeled --Prior Art--.

In order to address this objection, Applicant respectfully submits that the suggestion in MPEP § 608.02(g) of the use of the phrase --Prior Art-- does not exclude the use of alternate phrases, for example, "Background Art" and "Conventional Art". These alternative phrases may be found in many U.S. Patents issued today. The intent of MPEP § 608.02(g) is to distinguish Applicant's invention from that which is not Applicant's invention. If a drawing figure illustrates only material which is known to be statutory prior art to the invention, then the use of the phrase --Prior Art-- in the drawing figure would be proper. However, if it is not clear whether such material is statutory prior art, then the use of the phrase --Prior Art-- in the drawing figures would not be proper, and a label such as "Conventional Art" would be more appropriate. Therefore, the Applicant has labeled figures 4A and 4B as "Conventional Art".

Applicant submits that the proposed drawing corrections filed concurrently herewith, which include the label "Conventional Art" meet the criteria of MPEP § 608.02(g) and are sufficient to distinguish Applicant's invention from that which is not Applicant's invention. Accordingly, reconsideration and withdrawal of this objection, and approval of the proposed drawing corrections filed concurrently herewith, are respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 102(a) as being anticipated by the Applicant's Conventional Art. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

At the outset, no admission has been made by Applicant that Figures 4A and 4B qualify as statutory prior art usable in a rejection of the claims of the present application. Instead, Applicant has labeled Figures 4A and 4B as "Conventional Art" to distinguish Applicant's invention from that which is not Applicant's invention. The Applicant respectfully requests that the Examiner withdraw this art grounds of rejection, or provide evidence that these figures qualify as statutory prior art.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicant respectfully submits that independent claim 1 has been amended to recite a combination of elements in a liquid crystal display device, including wherein the first metal layer is patterned using the second metal layer as a mask

Applicant respectfully submits that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record. Neither is this combination of elements disclosed by the Applicant's Conventional

Art.

Particularly, figure 4B of the Applicant's conventional art discloses a formation step for source and drain electrodes having the first metal layer 6a and second metal layer 6b in a similar pattern. However the first metal layer 6a and the second metal layer 6b of the conventional art are simultaneously patterned using wet etching. As a result, a problem occurs in that the first and second metal layers are over-etched.

By contrast, in the Applicant's claimed invention, there is dry etching of the first metal layer after etching of the second metal layer, and the second metal layer is used as a mask. Therefore, the conventional art fails to teach a combination of elements in a liquid crystal display device, including the first metal layer is patterned using the second metal layer as a mask, as recited in independent claim 1, as amended.

Claims 3 and 4 depend on claim 1, and therefore are patentable, at least for the reasons stated with respect to independent claim 1. Reconsideration and withdrawal of this art grounds of rejection is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicant's conventional art figure 2, in view of U.S. Patent No. 6,078,365 to Ueda et al. (Ueda). This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

The Examiner admits that the conventional art (Fig. 2) fails to teach the source and drain electrodes having a first metal layer and a second metal layer formed in a same pattern as the first metal layer and defining a separation between the source and drain electrodes, and relies on Ueda to supply the deficiency of the conventional art.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicant respectfully submits that independent claim 1 has been amended to recite a combination of elements in a liquid crystal display device, including wherein the first metal layer is patterned using the second metal layer as a mask. Applicant respectfully submits that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Ueda.

In the portion of Ueda cited by the Examiner (Col.17, lines 22-30), a metal film 79 having a three-layered Mo/Al/Mo structure, as the uppermost layer, is first etched with a solution mixture of phosphoric acid, acetic acid and nitric acid. These layers were deposited onto layer 78 by sputtering (Ueda, Col.17, lines17-19). Therefore, neither of the three metal layers is patterned using any one of the other metal layers as a mask.

Therefore, Ueda (like the conventional art) fails to teach a combination of

elements in a liquid crystal display device, including the first metal layer is patterned using the second metal layer as a mask, as recited in independent claim 1, as amended.

With regard to independent claim 5, Ueda consistently discloses adjacent films being patterned in almost the same shape. With particular regard to layer 79, Ueda teaches the “metal film 79, the n+ type a-Si film 78, an a-Si film 77, and an SiN_x film 76 as a gate insulating film are continuously etched and patterned into almost the same shape. The Applicant respectfully submits that “same” and “almost the same” are not the same with respect to a semiconductor layer having the same pattern as the first metal layer.

Therefore Ueda fails to teach or suggest a combination of elements in a liquid crystal display device, including a source electrode and a drain electrode over the first semiconductor layer, the source electrode and drain electrode including a first layer and a second layer patterned to form a separation region between the source and drain electrodes; and a second semiconductor layer beneath the first metal layer and having a same pattern as the first metal layer, as recited in independent claim 5.

Reconsideration and withdrawal of this art grounds of rejection is respectfully requested.

With regard to dependent claims 2-4 and 6-8, Applicant submits that claims 2-4 and 6-8 depend, either directly or indirectly, from independent claims 1 and 5,

which are allowable for the reasons set forth above, and therefore claims 2-4 and 6-8 are allowable based on their dependence from claims 1 and 5. Reconsideration and allowance thereof are respectfully requested.

Obviousness-Type Double Patenting Rejection

Claims 1-8 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/028,305. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicant is herewith submitting a Terminal Disclaimer disclaiming the terminal portion of any patent granted on the present application which would extend beyond the expiration of a U.S. Patent of Application No. 10/028,305. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Claims 21- 26

Claims 21-26 have been added for the Examiner's consideration. Applicant submits that claims 21 and 22 depend, either directly or indirectly, from independent claims 1 and 5, respectively, and are therefore allowable based on

their dependence from claims 1 and 5, which are believed to be allowable.

Independent claim 23 recites a combination of elements in a liquid crystal display device, including an ohmic contact layer over the first semiconductor layer; and wherein inner edges of said ohmic contact layer facing said separation space are aligned with inner edges of said first metal layer.

Applicant respectfully submits that this combination of elements as set forth in independent claim 23 is not disclosed or made obvious by the prior art of record.

Particularly, Fig. 4A discloses an ohmic contact layer 17 in a transition processing step. Fig. 4B shows a next step of processing wherein ohmic contact layer 17 has inner edges somewhat aligned with layer 27. However, the inner edges of ohmic contact layer 17 are not aligned with inner edges of first metal layer 6b.

Claims 24-26 depend, either directly or indirectly, from independent claims 23, and are therefore allowable based on their dependence from claim 23, which is believed to be allowable.

Consideration and allowance of claims 21-26 are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the

Application No.: 10/028,768
Art Unit: 2815

Attorney Docket No. 2658-0281P
Amendment filed March 23, 2004
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outstanding Office Action, and as such, the present application is in condition for allowance.

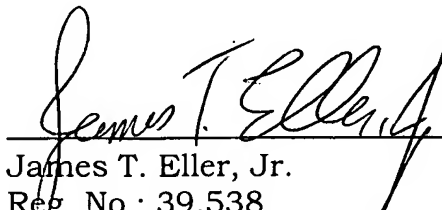
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Percy L. Square, Registration No. 51,084, at (703) 205-8034, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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JTE/PLS/mlr:jls

Attachment: Replacement Drawing Sheet
Annotated Drawing Sheet
Terminal Disclaimer



PATENT
2658-0281P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: Gee Sung CHAE Conf.: 4297
Appl. No.: 10/028,768 Group: 2815
Filed: December 28, 2001 Examiner: N.D. RICHARDS
For: LIQUID CRYSTAL DISPLAY DEVICE AND
FABRICATING METHOD THEROF

TERMINAL DISCLAIMER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

LG. Philips LCD CO., LTD., (hereinafter "the Assignee")

☐ residing at ,
☒ a corporation of KOREA having a principal place of
business at 20, Yoido-Dong, Youngdungpo-Ku, Seoul,
Korea,

☐ a university having an address of ,
represents that it is the true owner of the entire interest of
U.S. patent Application No. 10/028,768, filed on December 28,
2001, for "LIQUID CRYSTAL DISPLAY DEVICE AND FABRICATING METHOD
THEROF" (hereinafter "above-identified application") by virtue of
and as evidenced by an Assignment recorded at the United States
Patent and Trademark Office at Reel 012661, Frame(s) 0113-0116.

The Assignee hereby disclaims the terminal part of any
patent granted on the above-identified application which would
extend beyond the expiration date of any patent which issues from

the co-pending Application No. 10/028,305, (hereinafter "co-pending application") and hereby agrees that any patent so granted on the above-identified application shall be enforceable only for and during such period that the legal title to said patent shall be the same as the legal title to any patent which issues from the co-pending application, this agreement to run with any patent granted on the above-identified application and to be binding upon the grantee, its successors or assigns.

The Assignee does not disclaim any terminal part of any patent granted on the above-identified application prior to the expiration date of the full statutory term as presently shortened by any terminal disclaimer of any patent which issues from the co-pending application in the event that it later expires for failure to pay a maintenance fee, is held unenforceable, is found invalid, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. § 1.321(a), has all claims canceled by a reexamination certificate, or is otherwise terminated prior to the expiration of its statutory term as presently shortened by any terminal disclaimer, except for the separation of legal title stated above.

This Terminal Disclaimer is submitted on behalf of the Assignee by the undersigned, an attorney of record in the above-identified application.

Please charge any fees or credit any overpayment pursuant to
37 C.F.R. § 1.20 to Deposit Account No. 02-2448.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

Date:

3/23/04

By

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